

UNIT TERMINAL OBJECTIVE

- 6-3 At the completion of this unit, the paramedic student will be able to integrate the pathophysiological principles and the assessment findings to formulate and implement a treatment plan for the geriatric patient.

COGNITIVE OBJECTIVES

At the completion of this unit, the paramedic student will be able to:

- 6-3.1 Discuss population demographics demonstrating the rise in elderly population in the U.S. (C-1)
- 6-3.2 Discuss society's view of aging and the social, financial, and ethical issues facing the elderly. (C-1)
- 6-3.3 Assess the various living environments of elderly patients. (C-3)
- 6-3.4 Describe the local resources available to assist the elderly and create strategies to refer at risk patients to appropriate community services. (C-3)
- 6-3.5 Discuss issues facing society concerning the elderly. (C-1)
- 6-3.6 Discuss common emotional and psychological reactions to aging to include causes and manifestations. (C-1)
- 6-3.7 Apply the pathophysiology of multi-system failure to the assessment and management of medical conditions in the elderly patient. (C-2)
- 6-3.8 Discuss the problems with mobility in the elderly and develop strategies to prevent falls. (C-1)
- 6-3.9 Discuss the implications of problems with sensation to communication and patient assessment. (C-2)
- 6-3.10 Discuss the problems with continence and elimination and develop communication strategies to provide psychological support. (C-3)
- 6-3.11 Discuss factors that may complicate the assessment of the elderly patient. (C-1)
- 6-3.12 Describe principles that should be employed when assessing and communicating with the elderly. (C-1)
- 6-3.13 Compare the assessment of a young patient with that of an elderly patient. (C-3)
- 6-3.14 Discuss common complaints of elderly patients. (C-1)
- 6-3.15 Compare the pharmacokinetics of an elderly patient to that of a young adult. (C-2)6-3.
- 6-3.16 Discuss the impact of polypharmacy and medication non-compliance on patient assessment and management. (C-1)
- 6-3.17 Discuss drug distribution, metabolism, and excretion in the elderly patient. (C-1)
- 6-3.18 Discuss medication issues of the elderly including polypharmacy, dosing errors and increased drug sensitivity. (C-1)
- 6-3.19 Discuss the use and effects of commonly prescribed drugs for the elderly patient. (C-1)
- 6-3.20 Discuss the normal and abnormal changes with age of the pulmonary system. (C-1)
- 6-3.21 Describe the epidemiology of pulmonary diseases in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies for patients with pneumonia, chronic obstructive pulmonary diseases and pulmonary embolism. (C-1)
- 6-3.22 Compare and contrast the pathophysiology of pulmonary diseases in the elderly with that of a younger adult, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism. (C-3)
- 6-3.23 Discuss the assessment of the elderly patient with pulmonary complaints, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism. (C-1)
- 6-3.24 Identify the need for intervention and transport of the elderly patient with pulmonary complaints. (C-1)
- 6-3.25 Develop a treatment and management plan of the elderly patient with pulmonary complaints, including pneumonia, chronic obstructive pulmonary diseases, and pulmonary embolism. (C-3)
- 6-3.26 Discuss the normal and abnormal cardiovascular system changes with age. (C-1)
- 6-3.27 Describe the epidemiology for cardiovascular diseases in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies for patients with myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension. (C-1)
- 6-3.28 Compare and contrast the pathophysiology of cardiovascular diseases in the elderly with that of a younger

- adult, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension. (C-3)
- 6-3.29 Discuss the assessment of the elderly patient with complaints related to the cardiovascular system, including myocardial infarction, heart failure, dysrhythmias, aneurism, and hypertension. (C-1)
- 6-3.30 Identify the need for intervention and transportation of the elderly patient with cardiovascular complaints. (C-1)
- 6-3.31 Develop a treatment and management plan of the elderly patient with cardiovascular complaints, including myocardial infarction, heart failure, dysrhythmias, aneurism and hypertension. (C-3)
- 6-3.32 Discuss the normal and abnormal changes with age of the nervous system. (C-1)
- 6-3.33 Describe the epidemiology for nervous system diseases in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies for patients with cerebral vascular disease, delirium, dementia, Alzheimer's disease and Parkinson's disease. (C-1)
- 6-3.34 Compare and contrast the pathophysiology of nervous system diseases in the elderly with that of a younger adult, including cerebral vascular disease, delirium, dementia, Alzheimer's disease and Parkinson's disease. (C-3)
- 6-3.35 Discuss the assessment of the elderly patient with complaints related to the nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer's disease and Parkinson's disease. (C-1)
- 6-3.36 Identify the need for intervention and transportation of the patient with complaints related to the nervous system. (C-1)
- 6-3.37 Develop a treatment and management plan of the elderly patient with complaints related to the nervous system, including cerebral vascular disease, delirium, dementia, Alzheimer's disease and Parkinson's disease. (C-3)
- 6-3.38 Discuss the normal and abnormal changes of the endocrine system with age. (C-1)
- 6-3.39 Describe the epidemiology for endocrine diseases in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies for patients with diabetes and thyroid diseases. (C-1)
- 6-3.40 Compare and contrast the pathophysiology of diabetes and thyroid diseases in the elderly with that of a younger adult. (C-3)
- 6-3.41 Discuss the assessment of the elderly patient with complaints related to the endocrine system, including diabetes and thyroid diseases. (C-1)
- 6-3.42 Identify the need for intervention and transportation of the patient with endocrine problems. (C-1)
- 6-3.43 Develop a treatment and management plan of the elderly patient with endocrine problems, including diabetes and thyroid diseases. (C-3)
- 6-3.44 Discuss the normal and abnormal changes of the gastrointestinal system with age. (C-1)
- 6-3.45 Discuss the assessment of the elderly patient with complaints related to the gastrointestinal system. (C-1)
- 6-3.46 Identify the need for intervention and transportation of the patient with gastrointestinal complaints. (C-1)
- 6-3.47 Develop and execute a treatment and management plan of the elderly patient with gastrointestinal problems. (C-3)
- 6-3.48 Discuss the assessment and management of an elderly patient with GI hemorrhage and bowel obstruction. (C-1)
- 6-3.49 Compare and contrast the pathophysiology of GI hemorrhage and bowel obstruction in the elderly with that of a young adult. (C-3)
- 6-3.50 Discuss the normal and abnormal changes with age related to toxicology. (C-1)
- 6-3.51 Discuss the assessment of the elderly patient with complaints related to toxicology. (C-1)
- 6-3.52 Identify the need for intervention and transportation of the patient with toxicological problems. (C-1)
- 6-3.53 Develop and execute a treatment and management plan of the elderly patient with toxicological problems. (C-3)
- 6-3.54 Describe the epidemiology in the elderly, including the incidence, morbidity/ mortality, risk factors, and prevention strategies, for patients with drug toxicity. (C-1)
- 6-3.55 Compare and contrast the pathophysiology of drug toxicity in the elderly with that of a younger adult. (C-3)

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- 6-3.56 Discuss the assessment findings common in elderly patients with drug toxicity. (C-1)
 - 6-3.57 Discuss the management/ considerations when treating an elderly patient with drug toxicity. (C-1)
 - 6-3.58 Describe the epidemiology for drug and alcohol abuse in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies. (C-1)
 - 6-3.59 Compare and contrast the pathophysiology of drug and alcohol abuse in the elderly with that of a younger adult. (C-3)
 - 6-3.60 Discuss the assessment findings common in elderly patients with drug and alcohol abuse. (C-1)
 - 6-3.61 Discuss the management/ considerations when treating an elderly patient with drug and alcohol abuse. (C-1)
 - 6-3.62 Discuss the normal and abnormal changes of thermoregulation with age. (C-1)
 - 6-3.63 Discuss the assessment of the elderly patient with complaints related to thermoregulation. (C-1)
 - 6-3.64 Identify the need for intervention and transportation of the patient with environmental considerations. (C-1)
 - 6-3.65 Develop and execute a treatment and management plan of the elderly patient with environmental considerations. (C-3)
 - 6-3.66 Compare and contrast the pathophysiology of hypothermia and hyperthermia in the elderly with that of a younger adult. (C-3)
 - 6-3.67 Discuss the assessment findings and management plan for elderly patients with hypothermia and hyperthermia. (C-1)
 - 6-3.68 Discuss the normal and abnormal psychiatric changes of age. (C-1)
 - 6-3.69 Describe the epidemiology of depression and suicide in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies. (C-1)
 - 6-3.70 Compare and contrast the psychiatry of depression and suicide in the elderly with that of a younger adult. (C-3)
 - 6-3.71 Discuss the assessment of the elderly patient with psychiatric complaints, including depression and suicide. (C-1)
 - 6-3.72 Identify the need for intervention and transport of the elderly psychiatric patient. (C-1)
 - 6-3.73 Develop a treatment and management plan of the elderly psychiatric patient, including depression and suicide. (C-3)
 - 6-3.74 Discuss the normal and abnormal changes of the integumentary system with age. (C-1)
 - 6-3.75 Describe the epidemiology for pressure ulcers in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies. (C-1)
 - 6-3.76 Compare and contrast the pathophysiology of pressure ulcers in the elderly with that of a younger adult. (C-3)
 - 6-3.77 Discuss the assessment of the elderly patient with complaints related to the integumentary system, including pressure ulcers. (C-1)
 - 6-3.78 Identify the need for intervention and transportation of the patient with complaints related to the integumentary system. (C-1)
 - 6-3.79 Develop a treatment and management plan of the elderly patient with complaints related to the integumentary system, including pressure ulcers. (C-3)
 - 6-3.80 Discuss the normal and abnormal changes of the musculoskeletal system with age. (C-1)
 - 6-3.81 Describe the epidemiology for osteoarthritis and osteoporosis, including incidence, morbidity/ mortality, risk factors, and prevention strategies. (C-1)
 - 6-3.82 Compare and contrast the pathophysiology of osteoarthritis and osteoporosis with that of a younger adult. (C-3)
 - 6-3.83 Discuss the assessment of the elderly patient with complaints related to the musculoskeletal system, including osteoarthritis and osteoporosis. (C-1)
 - 6-3.84 Identify the need for intervention and transportation of the patient with musculoskeletal complaints. (C-1)
 - 6-3.85 Develop a treatment and management plan of the elderly patient with musculoskeletal complaints,

- including osteoarthritis and osteoporosis. (C-3)
- 6-3.86 Describe the epidemiology for trauma in the elderly, including incidence, morbidity/ mortality, risk factors, and prevention strategies for patients with orthopedic injuries, burns and head injuries. (C-1)
- 6-3.87 Compare and contrast the pathophysiology of trauma in the elderly with that of a younger adult, including orthopedic injuries, burns and head injuries. (C-3)
- 6-3.88 Discuss the assessment findings common in elderly patients with traumatic injuries, including orthopedic injuries, burns and head injuries. (C-1)
- 6-3.89 Discuss the management/ considerations when treating an elderly patient with traumatic injuries, including orthopedic injuries, burns and head injuries. (C-1)
- 6-3.90 Identify the need for intervention and transport of the elderly patient with trauma. (C-1)

AFFECTIVE OBJECTIVES

At the completion of this unit, the paramedic student will be able to:

- 6-3.91 Demonstrate and advocate appropriate interactions with the elderly that conveys respect for their position in life. (A-3)
- 6-3.92 Recognize the emotional need for independence in the elderly while simultaneously attending to their apparent acute dependence. (A-1)
- 6-3.93 Recognize and appreciate the many impediments to physical and emotional well being in the elderly. (A-2)
- 6-3.94 Recognize and appreciate the physical and emotional difficulties associated with being a caretaker of an impaired elderly person, particularly the patient with Alzheimer's disease. (A-3)

PSYCHOMOTOR OBJECTIVES

At the completion of this unit, the paramedic student will be able to:

- 6-3.95 Demonstrate the ability to assess a geriatric patient. (P-2)
- 6-3.96 Demonstrate the ability to adjust their assessment to a geriatric patient. (P-3)

DECLARATIVE

- I. Introduction
 - A. Special population with special and varying needs
 - B. Epidemiology/ demographics
 - 1. Prevalence/ "graying of America"
 - C. Societal issues
 - 1. Society's view of aging
 - 2. Social issues
 - a. Isolation
 - b. Marital status
 - 3. Living environments
 - a. Independent living
 - (1) Spousal/ family support
 - (2) Visiting nursing
 - b. Dependent living
 - (1) Live in nursing care
 - (2) Assisted living environments
 - (3) Nursing homes
 - 4. Financial aspects
 - 5. Ethics
 - a. Advanced directives
 - D. Referral resources
 - 1. Private
 - a. National
 - b. State
 - c. Local
 - 2. Governmental
 - a. National
 - b. State
 - c. Local
- II. Pathophysiology, assessment and management
 - A. Pathophysiology
 - 1. Multi-system failure
 - a. Concomitant disease process
 - b. Non specific complaints
 - c. Decreased ability to detect changes
 - 2. Pharmacology in the elderly
 - a. Age related pharmacokinetics
 - (1) Older adults are more sensitive to drugs
 - (2) Experience prolonged drug effects
 - (3) Have more adverse reactions
 - b. Polypharmacy
 - (1) Many chronic illnesses
 - (2) Interactions with over the counter medication
 - c. Compliance
 - (1) Multiple dosage regimens

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- (2) Difficult reading/ hearing/ understanding directions
 3. Problems with mobility and falls
 - a. Physical effects of decreased mobility
 - (1) Poor nutrition
 - (2) Difficulty with elimination
 - (3) Circulation
 - (4) Skin integrity
 - (5) Predisposes patients to falls and injury
 - b. Psychological effect of decreased mobility
 - (1) Loss of independence
 - (2) Loss of confidence
 - (3) Feeling "old"
 - c. Risk factors for falls
 - (1) History of falls
 - (2) Dizziness, weakness, impaired vision
 - (3) Altered gait
 - (4) CNS problems/ decreased mental status
 - (5) Medications
 - d. Prevention strategies
 - (1) Use of assistive devices
 - (2) Environmental modifications
 - (a) Remove scatter rugs and secure loose carpeting
 - (b) Remove items that may cause tripping
 - (c) Provide/ use railings
 - (d) Adequate lighting
 - (e) Unclutter the environment
 - (f) Arrange furniture for walking ease
 - (g) Use non slip decals in the tub
 - (h) Provide handrails on tubs, showers, and commodes
 4. Problems with sensations
 - a. Problems with seeing
 - (1) Pathophysiology
 - (a) Visual changes begin at age 40 and increase gradually
 - (b) Effects
 - i) Reading
 - ii) Depth perception
 - iii) Loss of independence
 - iv) Limitations
 - v) Poor accommodation
 - vi) Altered color perception
 - vii) Sensitivity to light and glare
 - viii) Decreased visual acuity
 - (2) Cataracts
 - (a) Lens becomes hardened and opaque
 - (b) Patient may have
 - i) Blurred vision
 - ii) Double vision
 - iii) Spots

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- iv) Ghost images
 - (c) May require surgery if it affects lifestyles
 - (3) Glaucoma
 - (a) Increased intraocular pressure
 - (b) Damage to optic nerve
 - (c) May progress to permanent loss of peripheral and central vision
 - (d) Oral medications and eye drops may relieve the pressure
 - b. Problems with hearing
 - (1) Not all elderly patient have hearing loss
 - (2) Overall hearing decreases
 - (3) Ability to perceive speech
 - (4) Tinnitus
 - (5) Meniere's disease
 - (6) Hearing loss
 - (a) Impairs the ability to communicate
 - (b) Hearing aids may not restore hearing to normal
 - c. Problems with speech
 - (1) Word retrieval
 - (2) Decreased fluency of speech
 - (3) Slowed rate of speech
 - (4) Change in voice quality
 - d. Pain perception
 - e. Assessment findings specific to the elderly patient
 - f. Management implications for the elderly patient
 - (1) Alterations for sensory deficits
5. Problems with continence and elimination
 - a. Incontinence
 - (1) Definition
 - (2) Incontinence is never normal
 - (3) Urinary or bowel
 - (4) Mild to total incontinence
 - (5) Extremely embarrassing
 - (6) Can lead to
 - (a) Skin irritation
 - (b) Skin breakdown
 - (c) Urinary tract infection
 - (7) Pathophysiology
 - (a) Continence requires
 - i) Anatomically correct GI/ GU tract
 - ii) Competent sphincter mechanism
 - iii) Cognitive and physical function
 - iv) Motivation
 - (b) Effects of age
 - i) Decrease in bladder capacity
 - ii) Involuntary bladder contractions
 - iii) Decreased ability to postpone voiding
 - iv) Medications may effect bladder/ bowel control
 - (8) Management implications

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- (a) Some cases of incontinence are managed surgically
 - (b) Absorptive devices are commonly used for fecal and urinary incontinence
 - (c) Indwelling catheters are less common and often cause infection
 - (d) Self esteem and social issues appreciation
- b. Elimination
 - (1) Causes of difficulty in urination
 - (a) Enlargement of the prostate in men
 - (b) Urinary tract infections
 - (c) Acute or chronic renal failure
 - (2) Causes of difficulty in bowel elimination
 - (a) Diverticular disease
 - (b) Constipation
 - (c) Colorectal cancer
- B. Assessment of the elderly patient
- 1. Patience is of utmost importance
 - 2. General health assessment
 - a. Social history
 - b. Living situation
 - c. Social support system
 - d. Activity level
 - e. Medication history
 - (1) Prescription medications
 - (2) Non-prescription medications
 - f. Nutrition
 - (1) Overall health is greatly affected by nutrition
 - (2) Malnutrition causes dehydration and hypoglycemia
 - (3) Lowered sensory stimulation of eating
 - (4) Decreased internal cues of hunger and thirst
 - (5) Caloric requirements decreases with age
 - (6) Eating may be complicated by
 - (a) Breathing
 - (b) Abdominal pain
 - (c) Nausea/ vomiting
 - (d) Poor dental care
 - (e) Health problems
 - (f) Medications
 - (g) Alcohol/ drugs
 - g. Sleep and rest
 - h. Environmental assessment
 - (1) Ability for self care
 - 3. Geriatric assessment
 - a. Factors complicating assessment
 - (1) Multiple diseases/ complaints
 - (2) Absent classical symptoms
 - (3) Failure to relate symptoms
 - (4) Sensory alterations
 - (5) Polypharmacy

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- (6) Other
 - b. Assessment communication methods
 - (1) Always introduce yourself
 - (2) Speak slowly, distinctly, and respectfully
 - (3) Speak to the patient first rather than family or bystanders
 - (4) Speak face to face, at eye level with eye contact
 - (5) Locate hearing aid or eyeglasses if needed
 - (6) Turn on lights
 - (7) Verbal and nonverbal communication of concern and empathy
 - (8) Use polite, respectful terms
 - (9) Preserve dignity
 - (10) Always explain before you do
 - c. History
 - (1) Common medical complaints
 - (2) Environment assessment
 - d. Physical exam
 - (1) Mental status assessment
 - C. Management considerations for the elderly
 - 1. Airway and ventilation
 - 2. Circulation
 - 3. Pharmacological
 - 4. Non-pharmacological
 - 5. Transport considerations
 - a. Gentle handling
 - b. Extra padding
 - 6. Psychological support/ communication strategies
 - a. Communication strategies
 - (1) Encourage the patient to express their feelings
 - (2) Acknowledge nonverbal messages
 - (3) Avoid questions which are judgmental
 - (4) Confirm what the patient says
 - (5) Take responsibility for communication breakdowns
 - b. Incontinence
 - (1) Do not make a big deal about incontinence
 - (2) Maintain patient dignity
 - (3) Reassurance that it is a treatable problem
 - (4) Usually does NOT require surgical intervention
- III. System pathophysiology, assessment and management
 - A. Pulmonary changes in the elderly
 - 1. Normal and abnormal changes with age
 - a. Kyphosis may affect pulmonary function
 - b. Decreased lung function due to
 - (1) Chronic exposure to pollutants
 - (2) Decreased respiratory muscle tone
 - (3) Changes in alveolar/ capillary exchange
 - (4) Respiratory center changes
 - 2. Assessment findings specific to the elderly
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- a. Most common pulmonary diseases in the elderly
 - (1) Pneumonia
 - (2) Pulmonary embolism
 - (3) Obstructive airway diseases
 - 3. Management implications for the elderly
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport considerations
 - e. Psychological support/ communications strategies
 - 4. Specific illnesses
 - a. Pneumonia in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - i) Usually bacterial
 - ii) Aspiration pneumonia due to difficult swallowing
 - iii) Viral
 - iv) High incidence due to
 - a) Decreased immune response
 - b) Reduced pulmonary function
 - c) Increased gram-negative pharyngeal colonization
 - (b) Morbidity/ mortality in the elderly
 - i) Leading cause of death in the elderly
 - ii) Often fatal in frail adults
 - iii) Concomitant chronic diseases
 - (c) Risk factors
 - i) Institutional environments
 - ii) Chronic diseases
 - iii) Immune compromise
 - (d) Prevention strategies
 - i) Prophylaxis treatment with antibiotics
 - (2) Assessment findings specific for the elderly patient
 - (a) Fever
 - (b) Cough
 - (c) Shortness of breath
 - (d) Often presents with mental status alterations
 - (e) May be afebrile
 - (f) Tachypnea
 - (3) Management considerations for the elderly patient
 - (a) Manage life-threats
 - (b) Maintain oxygenation
 - (c) Must be transported for diagnosis
 - (d) High rate of hospital admission
 - b. Chronic obstructive pulmonary disease in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - i) Combined bronchitis and emphysema in patients with a

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- (1) Cardiovascular fitness
 - (2) Changes in exercise tolerance
 - (3) Recent diet history
 - (4) Medications
 - (5) Smoking
 - (6) Breathing difficulty, especially at night
 - (7) Palpitations, flutter, skipped beats
 - b. Physical exam
 - (1) The heart increases in size
 - (2) Hypertension and orthostatic hypotension
 - (3) Dependent edema
 - (4) Consider checking the blood pressure in both arms
 - (5) Check pulses in all extremities routinely
 - (6) Check for carotid bruits
 - (7) Check for dehydration
3. Management implications for the elderly
- a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - (1) Use caution to avoid medication interaction
 - (2) Proper dosing is very important due to
 - (a) Less lean body mass
 - (b) Low fluid reserve
 - (c) Slow metabolism
 - (d) Decreased renal and hepatic function
 - d. Transport consideration
 - e. Psychological support/ communication strategies
4. Specific illnesses
- a. Myocardial infarction in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - (b) Morbidity/ mortality in the elderly
 - i) Mortality doubles after 70 years old
 - ii) Much greater complication rate
 - (c) Risk factors
 - i) Physical exertion
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (a) Chest pain is less common in the elderly
 - (b) Much greater incidence of silent MI
 - (c) Dyspnea is the most common sign in patients over 85
 - (d) Any nonspecific complaints of upper trunk discomfort
 - (3) Management considerations for the elderly patient
 - b. Heart failure in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - i) More frequent in older adults
 - ii) Large incidence of non cardiac causes

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- (b) Morbidity/ mortality in the elderly
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (a) First symptom of left failure is often fatigue
 - (b) Two pillow orthopnea
 - (c) Dyspnea on exertion
 - (d) Dry, hacking cough progressing to productive cough
 - (e) Dependent edema due to right failure
 - (f) Nocturia
 - (g) Anorexia, hepatomegaly, ascites
 - (3) Management considerations for the elderly patient
 - c. Dysrhythmias in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - i) The most common cause is hypertensive heart disease
 - ii) PVCs are present in most adults over 80
 - iii) Can be caused by anything that decreases myocardial blood flow
 - iv) May be caused by electrolyte aberrancies
 - v) Atrial fibrillation is the most common dysrhythmia
 - (b) Morbidity/ mortality in the elderly
 - i) Serious due to the decreased tolerance due to less CO
 - ii) Can lead to falls from cerebral hypoperfusion
 - iii) Can lead to TIAs and CHF
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (3) Management considerations for the elderly patient
 - d. Aneurysm in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - (b) Morbidity/ mortality in the elderly
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (3) Management considerations for the elderly patient
 - e. Hypertension in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - i) Increases with atherosclerosis
 - (b) Morbidity/ mortality in the elderly
 - i) BP greater than 160/95 doubles mortality in men
 - ii) Can lead to kidney loss
 - iii) Can lead to blindness
 - (c) Risk factors
 - i) Age
 - ii) Diabetes

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- iii) Obesity
 - (d) Prevention strategies
 - i) Medication compliance
 - ii) Dietary sodium reduction
 - iii) Exercise
 - iv) Smoking cessation
 - (2) Assessment findings specific for the elderly patient
 - (a) Often presents as memory loss
 - i) Epistaxis
 - ii) Slow tremors
 - iii) Nausea and vomiting
 - (3) Management considerations for the elderly patient
- C. Neurology in the elderly
 - 1. Normal and abnormal changes with age
 - a. Cognition requires perceptual organs and the brain
 - b. Cognitive function is not affected by the normal aging process
 - c. Slight changes in the following are normal
 - (1) Difficulty with recent memory
 - (2) Psychomotor slowing
 - (3) Forgetfulness
 - (4) Decrease in reaction time
 - 2. Assessment findings specific to the elderly
 - a. Best if conducted over time
 - b. Ask family or caretakers for information to determine the progression
 - c. Focus on the patient's
 - (1) Perceptions
 - (2) Thinking processes
 - (3) Communication
 - d. Provide an environment with minimal distractions
 - e. Mental status/ cognitive functioning exam
 - (1) Be calm, unhurried
 - (2) Ask clear, direct questions
 - (3) Give the patient time to respond
 - (4) Establish normal patterns of behavior and changes in behavior
 - (5) Include ability to perform activities of daily living
 - (6) Look for patters of behavior over time
 - (7) Assess the patient's mood and affective or emotional state
 - f. Assess for
 - (1) Weakness
 - (2) Chronic fatigue
 - (3) Changes in sleep patterns
 - (4) Syncope, or near syncope
 - 3. Management implications for the elderly
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport consideration
 - e. Psychological support/ communication strategies

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4. Specific illnesses
 - a. Cerebral vascular disease
 - (1) Epidemiology in the elderly
 - (a) Incidence
 - (b) Morbidity/ mortality
 - i) Expected course of disease
 - ii) Complications
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Pathophysiology
 - (a) Cerebral vascular accident
 - (b) Transient ischemic attack
 - (3) Assessment
 - (4) Management
 - b. Delirium
 - (1) Epidemiology in the elderly
 - (a) Incidence
 - (b) Morbidity/ mortality
 - i) Expected course of disease
 - a) Potentially reversible, if caught early
 - b) Can progress into chronic mental disfunction
 - ii) Complications
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Pathophysiology
 - (a) Organic brain dysfunction
 - (b) Possible causes
 - i) Tumor
 - ii) Metabolic disorders
 - iii) Fever
 - iv) Drug reaction
 - v) Alcohol intoxication/ withdrawal
 - (3) Assessment findings specific for the elderly patient
 - (a) Acute onset of anxiety
 - (b) Unable to focus
 - (c) Unable to think logically or maintain attention
 - (d) Memory is intact
 - (4) Management considerations for the elderly patient
 - c. Dementia
 - (1) Epidemiology
 - (a) Incidence
 - i) Increases with age
 - ii) Half of nursing home patients have some form of dementia
 - (b) Morbidity/ mortality
 - i) Generally considered irreversible
 - ii) Expected course of disease

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- iii) Complications
 - a) Patient becomes dependent on others
- (c) Risk factors
- (d) Prevention strategies
- (2) Pathophysiology in the elderly
 - (a) Many causes
 - i) Strokes
 - ii) Genetic or viral factors
 - iii) Alzheimer's
 - (b) Progressive loss of cognitive function
- (3) Assessment
 - (a) Progressive disorientation
 - (b) Shortened attention span
 - (c) Aphasia, nonsense talking
 - (d) Hallucinations
 - (e) Caretaker exhaustion
- (4) Management implications
 - (a) Severely limits ability to communicate
- d. Alzheimer's disease
 - (1) Epidemiology
 - (a) Incidence
 - (b) Morbidity/ mortality
 - i) Expected course of disease
 - ii) Complications
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Pathophysiology
 - (3) Assessment
 - (4) Management implications
- e. Parkinson's disease
 - (1) Epidemiology
 - (a) Incidence
 - (b) Morbidity/ mortality
 - i) Expected course of disease
 - ii) Complications
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Pathophysiology
 - (3) Assessment
 - (4) Management implications
- D. Endocrinology in the elderly
 - 1. Normal and abnormal changes with age
 - 2. Assessment findings specific to the elderly
 - 3. Management implications for the elderly
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport considerations

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- e. Psychological support/ communications strategies
 - 4. Specific illnesses
 - a. Diabetes in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - i) Approximately 20% of older adults have diabetes
 - ii) Almost 40% have some impaired glucose tolerance
 - iii) Most commonly type II
 - (b) Morbidity/ mortality in the elderly
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (a) Test for neuropathy
 - (b) Test visual acuity
 - (3) Management considerations for the elderly patient
 - b. Thyroid diseases in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - (b) Morbidity/ mortality in the elderly
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (3) Management considerations for the elderly patient
- E. Gastroenterology in the elderly
 - 1. Epidemiology
 - 2. Assessment findings
 - a. Look for indication of malnutrition
 - b. Hiatal hernia
 - 3. Management implications
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport consideration
 - e. Psychological support/ communication strategies
 - 4. Specific illnesses
 - a. GI hemorrhage in the elderly
 - (1) Increased risk in the elderly
 - b. Bowel obstruction in the elderly
- F. Toxicology in the elderly
 - 1. Pathophysiology/ pharmacokinetics
 - a. Decreased kidney function alters elimination
 - b. Increased likelihood of CNS side effects
 - c. Altered GI absorption
 - d. Decreased liver blood flow alters metabolism and excretion
 - 2. Specific
 - a. Lidocaine toxicity in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly

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- (3) Management implications for the elderly
 - b. Beta-blockers in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly
 - (3) Management implications for the elderly
 - c. Antihypertensives in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly
 - (3) Management implications for the elderly
 - d. Diuretics in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly
 - (3) Management implications for the elderly
 - e. Digitalis in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly
 - (3) Management implications for the elderly
 - f. Psychotropics in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly
 - (3) Management implications for the elderly
 - g. Antidepressants in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly
 - (3) Management implications for the elderly
 - h. Substance abuse in the elderly
 - (1) Epidemiology in the elderly
 - (2) Assessment findings in the elderly
 - (3) Management implications for the elderly
 - i. Alcohol abuse in the elderly
 - (1) Epidemiology
 - (a) Common problem
 - (b) History of alcoholism
 - (c) Severe stress is a risk factor
 - (2) Assessment findings
 - (a) Often very subtle signs
 - (b) Small amounts of alcohol can cause intoxications
 - (c) Mood swings, denial, and hostility
 - (d) Question family and friends
 - (e) Confusion
 - (f) History of falls
 - (g) Anorexia
 - (h) Insomnia
 - (3) Management implications
 - (a) Requires identification and referral
 - j. Drug abuse in the elderly
 - (1) Epidemiology
 - (a) Very common problem in the elderly

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- (b) Risk factors
 - i) Vision and memory changes
 - ii) Polypharmacy
 - iii) Nutritional deficits
 - (2) Assessment findings
 - (a) Memory changes
 - (b) Drowsy
 - (c) Decreased vision/ hearing
 - (d) Orthostatic hypotension
 - (e) Poor dexterity
 - (3) Management implications
 - (a) Requires identification and referral
 - G. Environmental considerations in the elderly
 - 1. Normal and abnormal changes with age
 - 2. Assessment findings specific to the elderly
 - 3. Management implications for the elderly
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport considerations
 - e. Psychological support/ communications strategies
 - 4. Specific illnesses
 - a. Hypothermia in the elderly
 - b. Hyperthermia in the elderly
 - H. Behavioral/ psychiatric disorders in the elderly
 - 1. Normal and abnormal changes with age
 - 2. Assessment findings specific to the elderly
 - 3. Management implications for the elderly
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport considerations
 - e. Psychological support/ communications strategies
 - 4. Specific situations
 - a. Depression in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - (b) Morbidity/ mortality in the elderly
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (3) Management considerations for the elderly patient
 - b. Suicide in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - (b) Morbidity/ mortality in the elderly
 - (c) Risk factors
 - (d) Prevention strategies

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- (2) Assessment findings specific for the elderly patient
 - (3) Management considerations for the elderly patient
- I. Integumentary changes with age
1. Normal and abnormal changes with age
 - a. Epidermal cellular turnover decreases
 - b. Slower healing
 - c. Increased risk of secondary infection
 - d. Increased risk of skin tumors, fungal or viral infections
 - e. Skin decreases in thickness, increasing susceptibility to tears
 - f. Hair becomes finer and thinner
 2. Assessment findings specific to the elderly
 3. Management implications for the elderly
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport considerations
 - e. Psychological support/ communications strategies
 4. Specific illnesses
 - a. Pressure ulcers in the elderly
 - (1) Result from tissue hypoxia
 - (2) Usually over bony areas
 - (3) Common in immobile patients
 - (4) Possibility increases with
 - (a) Altered sensory perception
 - (b) Skin exposure to moisture
 - (c) Decreased activity
 - (d) Decreased mobility
 - (e) Poor nutrition
 - (f) Friction or shear
- J. Musculoskeletal changes with age
1. Normal and abnormal changes with age
 2. Assessment findings specific to the elderly
 - a. Bone fractures with mild trauma
 3. Management implications for the elderly
 - a. Airway and ventilation
 - b. Circulation
 - c. Pharmacological/ non-pharmacological
 - d. Transport considerations
 - e. Psychological support/ communications strategies
 4. Specific illnesses
 - a. Osteoarthritis in the elderly
 - (1) Epidemiology in the elderly
 - (a) Incidence in the elderly
 - (b) Morbidity/ mortality in the elderly
 - (c) Risk factors
 - (d) Prevention strategies
 - (2) Assessment findings specific for the elderly patient
 - (3) Management considerations for the elderly patient

- (2) Appropriate facilities
- e. Psychological support/ communications strategies
- 5. Specific injuries
 - a. Orthopedic injuries
 - (1) Hip fracture is the most common acute orthopedic condition
 - (2) Elderly are susceptible to stress fractures of femur, pelvis, tibia
 - (3) Packaging should include bulk, and padding to fill in areas
 - (4) Kyphosis may require extra padding under the shoulders to maintain alignment
 - b. Burns
 - (1) Increased risk of significant mortality and morbidity due to pre-existing disease
 - (2) Skin changes result in increased burn depth
 - (3) Altered nutrition decreases defense against infection
 - (4) Fluid important to prevent renal tubular damage
 - (5) Assess hydration in initial hours after burn injury by BP, pulse, and urine output (at least 50-60 cc/ hr)
 - c. Head injury
 - (1) More serious in the elderly
 - (2) Brain shrinkage allows brain to move
 - (3) Subdural hematoma may develop more slowly, sometimes over days or weeks